

REMARKS

Claim Rejections Under 35 U.S.C. § 102

The Examiner has rejected claims 14 and 15 under 35 U.S.C. 102(b) as being anticipated by Green, et al. (U.S. Patent No. 4,473,480). Specifically, the Examiner has stated that Green teaches a method of preventing or alleviating lost circulation including treating a wellbore with a material comprising a blend of carbon based material and a water swellable, but not soluble polymer as called for in claim 14. Further, the Examiner has stated that Green teaches the method of preventing or alleviating lost circulation including adding to drilling fluid an additive comprising a blend of carbon based material and a water swellable, but not soluble polymer, circulating the fluid, and allowing the additive to enter a lost circulation zone as called for in claim 15.

The Examiner has rejected claims 14, 15, and 17 under 35 U.S.C. 102(a) as being anticipated by the prior art identified in paragraph 4 of the present application. Specifically, the Examiner states that the disclosed use of slurry including carbon based material (mineral oil) and polymer (polyacrylamide) anticipates these three claims.

Applicants have amended these claims to indicate that the carbon based material is “resilient,” a term defined in Applicant’s specification with respect to carbon particles or carbon-based materials as having the ability to “rebound by at least 20 volume percent when a compaction pressure of 10,000 psi is applied.” (page 4, paragraph 9). Green does not teach or suggest a “resilient” carbon-based material or “resilient” carbon particles and thus cannot anticipate Applicant’s claims under 35 U.S.C. 102. Similarly, the prior art discussed at Applicant’s specification in Paragraph 4 does not teach or suggest a “resilient” carbon-based material or “resilient” carbon particles and thus cannot anticipate Applicant’s claims under 35 U.S.C. 102.

Further, Green requires an element not taught as necessary in Applicant’s invention. Specifically, Green requires a “solid, particulate silicate or alumino-silicate material” (element (a) in abstract and at column 2, lines 40-41, and discussed further at column 3), whereas Applicant does not. Similarly, the prior art discussed at Applicant’s specification in paragraph 4 teaches the addition of bentonite whereas Applicant does not. The Federal Circuit has repeatedly indicated that to find anticipation of claims, the prior art embodiments must possess the properties expressly recited in the claims. Property limitations can serve to distinguish claimed subject matter from other products. Identity of invention is a question of fact, and a challenger

must show that each element of a claim is found in a prior patent or publication, either expressly or under principles of inherency. *E.g., E.I du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1330 7 U.S.P.Q.2d 1120 (Fed. Cir. 1988). “For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. . . . These elements must be arranged as in the claim under review.” *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Applicant teaches at paragraph 13 on page 4 that “the composition of the invention is effective without addition of reinforcing materials or other fibers.” (emphasis added).

Applicant has added new claims 25 and 26, dependent on claims 14 and 15 respectively, to include an element that such reinforcing materials are not in or added to the lost circulation material or composition or the additive. Support for these claims may be found in Applicant’s specification at paragraph 13 on page 4, and in Table 1.

Claim Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 14-19, 21-24 under 35 U.S.C. 103(a) as unpatentable over Zaleski et al (U.S. Patent No. 5,826,669) in view of Diamond Seal™. Applicant respectfully traverses these rejections for the reasons discussed below.

Specifically, the Examiner has stated that Zaleski teaches treating a wellbore with a fluid including a carbon based material to prevent or alleviate lost circulation but that Zaleski fails to teach the polymer. However, the Examiner has stated that Diamond Seal™ is a water swellable but not water soluble crystalline synthetic polymer disclosed as useful in preventing lost circulation. In the Examiner’s view, “It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Zaleski process to have included a water swellable but not water soluble crystalline synthetic polymer as called for in claim 14” or in claim 15 or in claim 18. “It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose,” the Examiner states, citing *In re Kerkhoven*.

However, in *In re Kerkhoven*, appellant's attorney admitted that appellant had not run any tests comparing his multi-slurry-produced detergent compositions containing a builder with the prior art single-slurry-produced detergent compositions containing the builder. Thus, it was said that appellant had failed to prove the superiority of his multi-slurry technique over the prior art's single-slurry technique for the production of detergent compositions containing this builder.

In the application currently before the Examiner, Applicant provided test data in Table 1 showing the superiority of Applicant's combination. Applicant's invention is not a mere combining of two known compositions for the same purpose. Applicant's invention shows superior performance with the combination and furthermore the superior effect of such combination without the need for adding other elements or materials such as silicate or bentonite for reinforcement as used in the prior art when the individual components of the combination were used separately or one without the other.

"Obvious to try" or to experiment is not a proper standard for obviousness. *Ecolochem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 56 U.S.P.Q.2d 1065 (Fed. Cir. 2000) "Selective hindsight is no more applicable to the design of experiments than it is to the combination of prior art teachings." *In re Dow Chemical Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988). The Federal Circuit explained in *In re O'Farrell*, 853 F.2d 894, 7 U.S.P.Q.2d 1673 (Fed. Cir. 1988), that "Indeed, for many inventions that seem quite obvious, there is no absolute predictability of success until the invention is reduced to practice. There is always at least a possibility of unexpected results, that would then provide an objective basis for showing that the invention, although apparently obvious, was in law nonobvious."

The Examiner has commented that while he has noted that Applicant has asserted that the combinations disclosed in Table I reflect a "surprising synergy," he believes Table I to lack "sufficient data to fully evaluate any assertion of unexpected results (e.g. no control values without either Diamondseal™ or Steelseal™; no test at claimed ratio 90:10, etc.) and [according to the Examiner] there is no evidence that any synergistic effect is greater than what would have been expected."

Applicant respectfully submits that the Examiner is wrong about Table I failing to show synergy of Applicant's combination and Applicant respectfully requests that the Examiner look again at Table I and at Applicant's claims. The first row in Table I shows use of the STEELSEAL™ component without the DIAMOND SEAL™ component. The last row in Table I shows use of the DIAMOND SEAL™ component without use of the STEELSEAL™ component. Applicant questions that any better control than this data could be provided. Applicant does not believe that data without either DIAMOND SEAL™ or STEELSEAL™ component would be meaningful or useful, as such data would effectively be that of water alone. Further, the filtrate data in the table for treatments wherein both STEELSEAL™ and DIAMOND SEAL™ components were used was significantly superior to the filtrate data for

either component alone. The effect was better than any “additive” effect and was not suggested or taught by the prior art. Applicant respectfully submits that the Examiner’s statement that “there is no evidence that any synergistic effect is greater than what would have been expected” is error. The Examiner has not shown any basis for alleging that Applicant’s test results set forth in Table I would be “expected.” Again, Applicant respectfully submits that the test results in fact demonstrate an unexpected synergy with the combination of his invention.

Only claim 22 includes an element of a ratio 90:10 and Applicant has amended that claim to refer instead to a range of pounds per barrel of the resilient carbon and of the polymer as supported by originally filed claims 7, 12, and 13 and by the data in Table I, as well as paragraph 17 on page 6.

With respect to claim 17, the Examiner has noted that the DIAMOND SEAL™ component includes polyacrylamide as called for in that claim. However, as indicated above, Applicant respectfully submits that this reference does not teach or suggest Applicant’s synergistic combination with resilient carbon based material.

With respect to claim 19, the Examiner has noted that while the DIAMOND SEAL™ document fails to disclose the crosslinked polymer, the polyacrylamide sold as DIAMOND SEAL™ is crosslinked. Even if this is the case, Applicant respectfully submits that neither this reference nor the commercial product teaches or suggests Applicant’s synergistic combination with resilient carbon based material.

With respect to claim 21, the Examiner has noted that “Official Notice is taken that the use of weighting material is well-known and near universal in drilling fluids, in order to achieve proper density.” Thus, the Examiner has said it would have been obvious to one of ordinary skill in the art to have further modified the Zaleski process to have included weighting material as called for in claim 21. Applicant respectfully traverses the Examiner’s rejection because claim 21 depends from claim 18 which Applicant maintains is novel and unobvious for the reasons discussed above.

With respect to claim 23, the Examiner has noted that while Zaleski fails to disclose whether the process is used in a vertical or horizontal or directional well, lost circulation is known to occur in horizontal or directional wells. Applicant respectfully traverses the Examiner’s rejection because claim 23 depends from claim 18 which Applicant maintains is novel and unobvious for the reasons discussed above.

With respect to claim 24, the Examiner has noted that while Zaleski fails to teach the temperature of the well, "Official Notice is taken that wells often have temperature of less than 200°F, and that such wells can experience lost circulation. Applicant respectfully traverses the Examiner's rejection because claim 24 depends from claim 18 which Applicant maintains is novel and unobvious for the reasons discussed above. Further, this claim is directed to one preferred embodiment of the invention.

The Examiner has rejected claim 20 under 35 U.S.C. 103(a) as being unpatentable over Zaleski and DIAMOND SEAL™ as applied to claim 18 above and further in view of Christman (U.S. Patent No. 3,633,689). Specifically, the Examiner admits that Zaleski and DIAMOND SEAL™ fail to teach the alcohol, but the Examiner states that "Christman teaches the use of alcohol in drilling fluid, to prevent freezing in cold climates." The Examiner then concludes that "It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Zaleski process to have included alcohol, in order to prevent freezing."

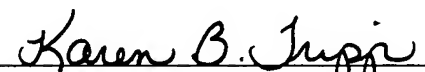
Applicant respectfully traverses this rejection of the Examiner of claim 20, and respectfully submits that the rejection has no justifiable basis in the cited art or in Applicant's specification and claims. Applicant teaches use of glyoxal in paragraph 16 on page 6 "to facilitate the combination of the components." Applicant further states in this paragraph 16 that, "Moreover, the data shows the composition of the invention is effective at high temperatures, particularly temperatures typically encountered at intermediate wellbore depths of less than about 15,000 feet. Such intermediate depths are where most lost circulation typically occurs, if at all, during drilling for the recovery of hydrocarbons." And as discussed above, Applicant's claim 24 is directed to temperatures less than about 200°F. While the term "less than" is used in that claim, temperatures approaching as high as 200°F are high and certainly not near "freezing" as the Examiner suggests. No where does Applicant teach or suggest use of glyoxal or any other alcohol to prevent "freezing." Christman is directed to drilling fluids for operation in subfreezing environments and is not concerned with lost circulation materials. It is error for the Examiner to reconstruct Applicant's claimed invention from the prior art by using Applicant's claim as a "blueprint." *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 227 U.S.P.Q. 543 (Fed. Cir. 1985). The Federal Circuit has advised that when prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight obtained from the invention itself. It is critical to understand the particular results achieved by the new invention. *Id.*

Applicant respectfully submits that the Examiner has presented no line of reasoning as to why an artisan reviewing only the collective teachings of the references cited by the Examiner would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. Applicant respectfully submits that the Examiner has done little more than cite references to show that one or more elements is known. The claimed invention, however, is directed to a combination of elements. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). None of the references teach increasing the effectiveness, efficiency or utility of using resilient carbon-based material and a water swellable but not water-soluble crystalline synthetic polymer for treating lost circulation as taught by Applicant.

Applicant respectfully requests the Examiner reconsider his position and Applicant's claims, as amended. Applicant respectfully submits that this response is fully responsive to the Examiner's office action and Applicant respectfully requests the Examiner to allow the application to proceed to issue.

Respectfully submitted,

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